

**Critical Minerals Mapping - 3DEEP**

**FY2020 Request: \$3,600,000**

**Reference No: 61849**

**AP/AL:** Appropriation

**Project Type:** Research / Studies / Planning

**Category:** Natural Resources

**Location:** Statewide

**House District:** Statewide (HD 1-40)

**Impact House District:** Statewide (HD 1-40)

**Contact:** Fabienne Peter-Contesse

**Estimated Project Dates:** 07/01/2019 - 06/30/2024

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**Brief Summary and Statement of Need:**

This program will produce geological and geophysical maps of high-potential mineral areas in Alaska, focused on critical minerals. The published new data and digitally upgraded historical data will spur private sector investment in Alaska, generate jobs, and help the nation’s critical mineral supply.

<b>Funding:</b>	<b>FY2020</b>	<b>FY2021</b>	<b>FY2022</b>	<b>FY2023</b>	<b>FY2024</b>	<b>FY2025</b>	<b>Total</b>
1001 CBR Fund	\$600,000						\$600,000
1002 Fed Rcpts	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$18,000,000
1003 G/F Match		\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$3,000,000
<b>Total:</b>	<b>\$3,600,000</b>	<b>\$3,600,000</b>	<b>\$3,600,000</b>	<b>\$3,600,000</b>	<b>\$3,600,000</b>	<b>\$3,600,000</b>	<b>\$21,600,000</b>

<input checked="" type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input checked="" type="checkbox"/> On-Going
25% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

**Operating & Maintenance Costs:**

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
<b>Totals:</b>	<b>0</b>	<b>0</b>

**Prior Funding History / Additional Information:**

Sec1 Ch19 SLA2018 P8 L14 SB142 \$5,000,000

**Project Description/Justification:**

This is a continuation of the FY2019 National Mineral Security Program – 3DEEP capital project.

White Rock Minerals CEO stated that work by the Alaska Airborne Geophysical/Geological Mineral Inventory (AGGMI) program brought them to Alaska to explore for minerals. White Rock Minerals contracted an Alaska company to conduct their currently active, multi-million-dollar drilling program targeting Zn-Pb-Cu-Ag-Ag prospects (similar to Greens Creek mine) at Red Mountain in the north-central Alaska Range.

From 1993-2015, the State’s AGGMI program annually produced geophysical surveys, geologic maps, and datasets to attract industry exploration investment and facilitate resource development. The AGGMI program and associated position was cut in FY2016. DGGS has retained sufficient staff but lacks funds for data collection.

This capital project would re-start the AGGMI program within DGGs, and leverage state funds as match to acquire federal funds available under the recently launched federal Critical Minerals Mapping Initiative (3DEEP).

President Trump in Executive Order 13817, and Secretary Zinke in Secretarial Order 3359 initiated a national mapping program to provide modern, digital, geological and geophysical mapping across the nation to provide information on the nation's supply of critical minerals. This is part of a broader federal effort to improve the nation's resilience to constrained supplies of critical minerals.

President Trump included \$10.6 million in the President's USGS FFY2019 budget for this program. The U.S. House of Representatives passed a USGS funding bill also with \$10.6 million, while the U.S. Senate passed a version of the USGS budget containing \$7 million for FFY2019. As of 8/17/18, these budgets will go to conference committee, and a conference version has not yet been finalized. Additional federal agencies in the Departments of Defense and Interior are anticipated to contribute funds to the 3DEEP program, with the goal of a funding level of \$50 million per year for 10 years. Funding amounts in future CIP requests may increase if these additional funds are forthcoming.

The USGS is actively planning the critical minerals mapping program, with input from state geological surveys, as the state geological surveys will be conducting the geologic and geophysical mapping. Since inception of this program, Alaska has been noted as one of three priority areas nationally; due to its size and mineral endowment, Alaska is anticipated to feature prominently in the funding stream. Priority areas are Alaska, the mid-continent, and parts of the western states. The USGS indicates funding will go to those states or regions with match funding, and the capability to rapidly deliver initial products to show early successes.

### **Geologic and Geophysical Critical Minerals Mapping Program**

Sources for critical minerals could be developed in the U.S., but private sector exploration is hampered by the lack of modern geological and geophysical data. Competitor countries provide such data sets to attract private-sector investment, however, geologic maps at a suitable scale for minerals exploration are available for less than 17% of Alaska. The mineral deposits required to meet domestic needs can only be found through comprehensive geophysical and geologic mapping:

- Geologic maps provide information on rocks, sediments, and geologic structures such as faults at the Earth's surface. Geologic maps are also essential for natural hazard avoidance and water resources management.
- Geophysical surveys for mineral exploration include techniques that discriminate different types of rocks and minerals in the subsurface and on the Earth's surface. Some of these same techniques are also useful for delineating groundwater resources, mapping permafrost, and assessing potential geological hazards.
- Topographic maps portray surface elevation data, ensuring that geological and geophysical surveys are accurate. It is essential that surface geology be mapped on accurate, up-to-date topographic base maps. The USGS is the nation's principal agency for their creation.

Along with geologic mapping, this program will conduct airborne geophysical surveys of the continental United States and Alaska with data collection by private sector contractors. With the DGGs extensive track record for contracting and conducting airborne geophysical surveys, we anticipate airborne surveys in Alaska will be contracted through DGGs.

**Status Quo** (what happens if request not approved?):

Alaska contains critical and strategic minerals important to national security and the economy. Failure to fund this request will continue to hamper private sector exploration due to the lack of modern geological and geophysical data.

This will reduce Alaska’s worldwide competitiveness in attracting industry investment, and inhibit industry exploration, mineral discovery, and development, thereby reducing future state revenues.

Failure to fund this capital request will prevent Alaska from being geologically mapped at scales useful for mineral exploration. With current funding levels and personnel, DGGs will complete mapping the state at useful scales in approximately 400 years. Failure to fund this unique capital request will cause the state to forgo federal funds.

**What was accomplished?**

Between FY1993 and FY2015, the AGGMI program completed new airborne geophysical mapping of 15,771 square miles of Alaska. This program made significant contributions towards the goal of creating comprehensive geophysical and geological map coverage of Alaska, where current mapping is limited or nonexistent. The AGGMI products have attracted millions of dollars in industry investment, directly facilitated mineral discoveries, and brought in state revenue via increased claim staking and associated rental fees.

**Budget**

While the exact matching requirements are not known at this time, states will be expected to match a portion of the federal funds. We estimate the state match requirement will be 25% (3:1), or \$3,000.0 FED / \$1,000.0 State Match. Minerals Resources Section operating expenditures will cover approximately \$400.0 of the match as in kind, and the remaining \$600.0 is requested as GFM.

Note, this is intended to be a 10-year program, and future requests will be amended to reflect changes in anticipated federal funding and match requirements. The budget below reflects the time and expenses under this project and not the operating component utilized as a partial in kind match.

Line Items	GFM	FED	Total
1000 - Personal Services (position detail below)	\$75,000	\$925,000	\$1,000,000
2000 - Travel (field mapping)	\$25,000	\$275,000	\$300,000
3000 - Contractual (geophysical surveys, helicopters, analyses)	\$475,000	\$1,700,000	\$2,175,000
4000 - Commodities	\$25,000	\$100,000	\$125,000
<b>Total</b>	<b>\$600,000</b>	<b>\$3,000,000</b>	<b>\$3,600,000</b>

**Position Detail:**

Existing Fairbanks staff in the Mineral Resources and Geologic Information Center sections will support this project, with newly hired, federally funded positions also located in Fairbanks.

